WHAT IS CLAIMED IS:

1. A digital projector having closed loop three color alignment comprising:

a light source;

an optical engine which splits a beam of light from said light source into first, second, and third wavelengths bands;

a first, second, and third spatial light modulator which imparts image data and first, second, and third fiducial data respectively to said first, second, and third wavelengths bands:

wherein said first, second, and third wavelengths bands are directed respectively to said first, second, and third, spatial light modulator;

a combiner which combines said modulated first, second, and third wavelengths bands;

a diverter which diverts a portion of said combined modulated wavelengths bands to at least one sensor;

wherein said sensor senses a relative position of the each of said fiducials and sends said position information to a microprocessor;

wherein said microprocessor determines an error based on said relative position of said fiducials; and

wherein said microprocessor sends a signal to at least one component of said system to resolve said error.

2. A digital projector as in claim 1 wherein said fiducial data comprises a multiplicity of spatially separated fiducials.

3. A digital projector as in claim 1 wherein a first and a second sensors are located to capture at least two of said fiducials and said fiducials are spatially separated.

4. A digital projector as in claim 1 wherein said fiducial data comprises a multiplicity of pixels in a predetermined pattern.

5. A digital projector as in claim 1 wherein said fiducial data comprises a multiplicity of spatially separated fiducials each comprising a multiplicity of pixels in a predetermined pattern.

6. A digital projector as in claim 1 wherein said fiducial data for each of said first, second, and third wavelength bands is located in a same spatial position relative to said image data.

7. A digital projector as in claim 1 wherein said diverter diverts all of said fiducial data to said sensor.

8. A digital projector as in claim 1 wherein an element between said diverter and said sensor reduces an amount of light impinging on said sensor.

9. A digital projector as in claim 1 wherein a first sensor determines position and a second sensor detects focus.

10. A digital projector as in claim 1 wherein said spatial light modulators impart fiducial data to said first, second, and third wavelength bands in a predetermined sequence.

11. A digital projector as in claim 1 wherein said sensor collects said fiducial data from each of said first, second, and third wavelength bands in a predetermined sequence.

12. A digital projector as in claim 1 wherein said microprocessor determines said wavelength band by the predetermined sequence.

13. A digital projector as in claim 1 wherein wavelength filters are presented in a predetermined sequence in front of said sensor.

14. A digital projector as in claim 1 wherein said sensor discriminates between multiple wavelength bands.

15. A digital projector as in claim 1 wherein said spatial light modulators are LCDs.

16. A digital projector as in claim 1 wherein said spatial light modulators are digital micro-mirrors.

17. A digital projector as in claim 1 wherein uniformizing optics are located between said light source and said optical engine.

18. A digital projector as in claim 1 wherein said light source is a xenon lamp.

19. A digital projector as in claim 1 wherein said light source is a laser.

20. A digital projector as in claim 1 wherein in a mask separates said fiducials from a projected image. 112

21. A digital projector having closed loop three color alignment comprising:

a light source;

an optical engine which splits a beam of light from said light source into first, second, and third wavelengths bands;

a first, second, and third spatial light modulator which imparts image data and first, second, and third fiducial data respectively to said first, second, and third wavelengths bands:

wherein said first, second, and third wavelengths bands are directed respectively to said first, second, and third, spatial light modulator;

a combiner which combines said modulated first, second, and third wavelengths bands;

a sensor which senses a relative position of the each of said fiducials and sends said position information to a microprocessor;

wherein said microprocessor determines an error based on said relative position of said fiducials; and

wherein said microprocessor sends a signal to an actuator on at least one of said spatial light modulators to resolve said error.

22. A digital projector as in claim 21 wherein a mask separates said fiducials from a projected image.

23. A digital projector as in claim 22 wherein said mask is mounted with a heat dissipating unit.

24. A digital projector as in claim 22 wherein said fiducial data is imaged onto said mask and said sensor is an imaging system which collects said fiducial data from said mask.

25. A digital projector as in claim 21 wherein said sensor is on a mask.

26. A digital projector as in claim 25 wherein said sensor is comprised of a first and second sensor wherein said first and second sensors are located on corners of said mask.

27. A digital projector having closed loop three color alignment comprising:

a light source which produces first, second, and third wavelengths bands;

a first, second, and third spatial light modulator which imparts image data and first, second, and third fiducial data respectively to said first, second, and third wavelengths bands:

wherein said first, second, and third wavelengths bands are directed respectively to said first, second, and third, spatial light modulator;

a combiner which combines said modulated first, second, and third wavelengths bands;

a diverter which diverts a portion of said combined modulated wavelengths bands to at least one sensor;

wherein said sensor senses a relative position of the each of said fiducials and sends said position information to a microprocessor;

wherein said microprocessor determines an error based on said relative position of said fiducials; and

wherein said microprocessor sends a signal to at least one component of said system to resolve said error.

28. A digital projector as in claim 27 wherein said fiducial data comprises a multiplicity of spatially separated fiducials.

29. A digital projector as in claim 27 wherein a first and a second sensors are located to capture at least two of said fiducials and said fiducials are spatially separated.

30. A digital projector as in claim 27 wherein said fiducial data comprises a multiplicity of pixels in a predetermined pattern.